

**AMENDED CLAIMS +  
STATEMENT UNDER ARTICLE 19(1)**

[Received by the International Bureau on 21 November 2005 (21.11.05);  
original claims 1-28 amended; new claims 1-27 added (4 pages)]

- 5           1.       A method of damaging target cells in a subject, the method comprising  
administering to the subject
- (1) a nucleic acid encoding a compound capable of converting a substrate  
to acetaldehyde, wherein said compound is an enzymatically active  
portion of alcohol dehydrogenase; and
- 10           (2) a substrate which is converted to acetaldehyde by the portion capable  
of converting said substrate to acetaldehyde;
- wherein said substrate is ethanol.
- 15           2.       A method according to claim 1 further comprising administering a  
component that is capable of inhibiting aldehyde dehydrogenase.
3.       A method according to claim 2 wherein said component that is capable of  
20       inhibiting aldehyde dehydrogenase is Disulfiram.
4.       A method according to any of claims 1 to 3 wherein the nucleic acid is in  
the form of a viral vector.
- 25           5.       A method according to claim 4 wherein the viral vector is a DNA based  
viral vector.
6.       A method according to claim 5 wherein the DNA based viral vector is an  
adenovirus derived viral vector.
- 30           7.       A method according to any of claims 1 to 6 wherein the nucleic acid  
comprises a polynucleotide comprising a target cell-specific promoter  
operably linked to a polynucleotide encoding said alcohol  
dehydrogenase.

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8. A method according to any preceding claim in which the portion of alcohol dehydrogenase converts the ethanol to acetaldehyde as a result of its enzymatic activity.
9. A method according to any of claims 4 to 8 wherein said vector comprises a target cell specific portion.
10. A method according to according to claim 9 in which the target cell specific portion comprises an antibody or part thereof.
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11. A method according to according to claim 9 or claim 10 in which the target-cell specific portion is capable of selectively binding to a cell surface entity.
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12. A method according to claim 11 in which the cell surface entity is a tumour-associated antigen.
13. A method according to any one of claims 9 to 12 in which the target cell specific portion comprises a liposome.
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14. A method according to any one of claims 1 to 13 in which a radiation therapy is also administered to the subject.
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15. A composition comprising a compound as defined in any of claims 1 to 13, wherein the portion of alcohol dehydrogenase is an enzymatically active portion of human alcohol dehydrogenase.
16. A composition according to claim 16 wherein said human alcohol dehydrogenase is alcohol dehydrogenase  $\beta 2$ .
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17. A composition according to claim 15 or claim 16 further comprising a substance which is capable of inhibiting aldehyde dehydrogenase.

18. A composition according to claim 17 wherein said substance which is capable of inhibiting aldehyde dehydrogenase is Disulfiram.
- 5 19. A composition according to any of claims 15 to 18 further comprising a chemotherapeutic agent.
20. A composition according to any of claims 15 to 19 further comprising an immunosuppressive agent.
- 10 21. A composition according to any of claims 15 to 20 for use in medicine.
22. Use of a composition according to any of claims 15 to 20 in the manufacture of a medicament for the treatment of cancer.
- 15 23. Use of ethanol or pyruvate in the manufacture of a medicament for the treatment of cancer.
- 20 24. A therapeutic system or kit comprising a compound or system as defined in any of claims 1-13, or a composition as defined in any of claims 15 to 20, and a second component which comprises ethanol, and optionally a third component that is capable of inhibiting aldehyde dehydrogenase.
- 25 25. A therapeutic system or kit according to claim 24 in which the aldehyde producing portion is a catalytically active portion of alcohol dehydrogenase, the second component is ethanol and the third component is Disulfiram.
- 30 26. Human alcohol dehydrogenase or a catalytically active portion thereof for use in medicine.
27. Use of alcohol dehydrogenase or a catalytically active portion thereof in the manufacture of a medicament for the treatment of cancer.